

REMARKS

Claims 1-18 are pending in the application. Claims 1-11, 13, 14, and 16-18 stand rejected. Claim 1 is an independent claim.

Claims 1 and 3 are amended change the functional language of each claim to structural language by reciting the term “configured to.”

Claims 1-3 and 7 are amended to recite “a wavelength division demultiplexing section” to further clarify each claim. The support can be found in the specification, at page 8, line 2.

Claim 11 is amended to clarify the claim. The support can be found in FIG. 7.

Claim 15 is amended to correct an inadvertent error. The support can be found in the specification at page 11, line 6-21 and at page 14, line 2-19.

The Applicant respectfully submits that the amendments were not made for the reason related to patentability. As such, the Applicant makes no disclaimer.

Claim 1 stand objected for containing informalities. The Patent Office indicates that claim 1 reciting “a drop interface arranged to process the optical frames output from the wavelength division multiplexer to the IP router” appears to contradict FIG. 2, as the drop interface shown in FIG. 2 does not receive any signals output from the WDM multiplexer.

In response, the Applicant amends claim 1 to recite “a drop interface arranged to process the optical frames that are transmitted to the IP router via the wavelength division multiplexer.” The Applicant respectfully submits that the amended claim 1 is clear, and the Applicant respectfully requests withdrawal of the objection.

The Applicant wishes to thank the Examiner for indicating that claims 12 and 15 would be allowable if the claims are rewritten as independent claims incorporating all features of the base and any intervening claims. The Applicant, at this time, wishes to defer rewriting the

claims. The Applicant believes that claim 1 is patentable, as noted below.

Claim 1 stands rejected under 35 U.S.C §103(a) as allegedly being obvious over Watanabe *et al.* (U.S. 6,701,088) (“Watanabe”) in view of Xiong *et al.* (U.S. Pub. 2002/0118421) (“Xiong”).

Claim 1 recites an optical router comprising “a header processor arranged to **recognize header information** and **to control the optical router.**”

To reject a claim under section 103, the United States Court of Appeals for the Federal Circuit required a showing of **an unrebutted prima facie case of obviousness** (*In re Rouffet*, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 1998)). **Under MPEP 2143.03**, the *prima facie* case of obviousness can be established only if the prior art references, among others, **teach all features** in the claims (see also *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1970)).

In rejecting claim 1, the Patent Office indicates that header process of claim 1 is taught by overhead areas OPS1 – OPS3 of Watanabe (the present Office Action, page 3 (citing column 5, line 54-61)).

Watanabe, as read by the Applicant, discloses an IP packet transmission equipment containing overhead areas OPS1 – OPS3. However, Watanabe discloses that the OPS1 – OPS3 simply store the overhead information. The Applicant respectfully submits that overhead areas that simply store the overhead information are different from and do not teach “a header processor that is arranged to **recognize header information** and **to control the optical router.**” as recited in claim 1.

Xiong, as read by the Applicant, discloses an apparatus for scheduling channels in optical routers. However, nowhere is there a disclosure of “a header processor that is arranged to **recognize header information** and **to control the optical router.**” as recited in claim 1.

Therefore, neither Watanabe nor Xiong discloses an optical router of claim 1, and the references, alone or in combination, do not render claim 1 obvious.

The Applicant respectfully submits that claim 1 is also patentable over Watanabe and Xiong on other grounds.

First, claim 1 recites “an input interface arranged to convert optical frames input from the wavelength division demultiplexing section into electrical signals and to convert the electrical signals to optical frames.”

As shown in FIG. 6, the optical frame comprises a header and a data frame. As such, the present input interface, as recited in claim 1, is arranged to convert optical frames that comprises a header and a data frame and that is input from the wavelength division demultiplexing section into electrical signals and configured to convert the electrical signals to optical frames.

In rejecting claim 1, the Patent Office indicates that the input interface of claim 1 is taught by the optical regenerator 13-1 to 13-6 of Watanabe (the present Office Action, page 3).

However, Watanabe explicitly teaches that the optical regenerator 13-1 to 13-6 is configured simply “to convert the optical path signals OPS from the OTM/optical path signal conversion parts 11-1 and 11-2 to electrical signals” (column 4, line 16-23). As such, the optical regenerators 13-1 to 13-6 are different from the input interface of claim 1, and Watanabe does not teach “an input interface arranged to convert optical frames input from the wavelength division demultiplexing section into electrical signals and to convert the electrical signals to optical frames,” as recited in claim 1.

Xiong, meanwhile, discloses that within its optical burst switch network 4, a data burst and a burst header packet (the “BHP”) received from different channels are divided into a data channel group (the “DCG”) and a controlling channel group (the “CCG”) ([0046]-[0049]).

According to Xiong, only the BHP is input to a Switch Control Unit (the “SCU”) (32), converted into the optical/electrical signal, and converted into the electrical/optical signal (see id.). The data burst of the DCG transmitted to the demultiplexer (22), however, remains as an optical signal (see id.).

Therefore, Xiong also fails to teach “an input interface arranged to convert optical frames input from the wavelength division demultiplexing section into electrical signals and to convert the electrical signals to optical frames,” as recited in claim 1.

As Watanabe and Xiong fail to teach the input interface of claim 1, two references, alone or in combination, fail to render claim 1 obvious.

Second, claim 1 recites “a header reinserter arranged to reinsert headers into outputs of the optical router.”

As noted in the specification, the header reinserter of claim 1 is configured to insert a header into the output of the optical router so that the optical frame is transmitted to another optical router through the output interface section 50, in which the destination contained in the new header information is detected from the header information that is recognized from the optical frame received by the input interface section 30.

The Applicant respectfully submits that such header reinserter cannot be found in either Watanabe or Xiong. In particular, the optical path signal overhead insertion circuit 17B of Watanabe simply records the input IP packets to an optical path payload area in an optical path signal of FIG. 6. The optical path signal overhead insertion circuit 17B is not configured to reinsert headers into outputs of the optical router, as recited in claim 1.

Moreover, nowhere does Xiong appear to disclose “a header reinserter arranged to reinsert headers into outputs of the optical router,” as recited in claim 1.

Therefore, neither Watanabe nor Xiong appears to disclose the header reinserter of claim 1, and the references, alone or in combination, do not render claim 1 obvious.

Third, the present optical router contains an output interface that is configured to convert the optical frame that is switched by and that is output from optical switch into an electrical signal (see FIG. 5).

However, neither Watanabe nor Xiong discloses an output interface that is configured to convert the optical frame switched by and output from optical switch into an electrical signal (see FIG. 7A of Watanabe and FIG 1b of Xiong). As such, Watanabe and Xiong, alone or in combination, appear to teach the present optical router, and two references, alone or in combination, do not appear to render claim 1 obvious.

For all foregoing reasons, the Applicant respectfully requests withdrawal of the rejection on claim 1.

Other claims in this application are each dependent on the independent claim 1 and believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.

Amendment
Serial No. 10/638,983

Should the Examiner deem that there are any issues which may be best resolved by telephone, please contact Applicant's undersigned representative at the number listed below.



Respectfully submitted,

A handwritten signature in black ink, appearing to be "Steve Cha", written over a horizontal line.

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